

## **REMARKS**

Claims 1-44 are currently pending in the application. Claims 20-25 and 28-44 are withdrawn. The Applicants thank the Examiner for the teleconference of October 28, 2008, wherein the Examiner indicated that no action need be taken in regard to amending the withdrawn claims for rejoiner nor addressing the double patenting rejection.

## **ELECTION/RESTICTION**

Applicants affirm the election made by Lisa Jones on 5/20/2008.

## **OATH/DECLARATION**

Regarding the Examiner's determination that the first filed oath/declaration was defective, a new oath/declaration is filed herewith.

## **REJECTIONS UNDER 35 USC §102/103**

**Claims 1,2,12-14 and 26 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Imai (51 20355).** The Examiner has rejected the listed claims and, by implication Claims 3 and 4 (these claims were overlooked in the rejections), based upon the premise that all of the elements of these claims were found in Imai. Specifically, the Examiner cites IMAI as disclosing the alkyl phenol element of the claims: "Imai discloses an emulsion comprising water, one or more waxes (a) having a melting point of 50-90°C (122 to 194°F), a hydrocarbon resin (b) (which is in some embodiments an alkyl polyphenol)[.]"

Claims 1 and 26, the remaining independent claims, have been amended to limit the claims to the use of a C<sub>24</sub> - C<sub>36</sub> polymerized methylene coupled alkyl phenol. The basis for this amendment may be found in the now cancelled Claim 3 and in the specification at paragraph [0068]:

[0068]Incorporating alkyl phenols into the emulsions has been found important to achieving low water absorption in the final gypsum wood fiber product. As used herein, "alkyl phenols" refer to phenolic compounds having a long chain alkyl

group. The long chain alkyl group may be straight or branched. The long chain alkyl group may be  $C_{24}$ - $C_{34}$  (from 24 to 34 carbon chain length). Such alkyl phenols include long chain,  $C_{24}$ - $C_{34}$  (from 24 to 34 carbon chain length) polymerized methylene-coupled alkyl phenol, phenate salts, calcium phenates, long branched chain calcium alkyl phenols, long straight chain calcium alkyl phenols and complex polymers of maleic acid with and without an amine group substitution[.]

The Examiner cites the "hydrocarbon resins" section of the Imai reference as anticipating the claimed alkyl phenols. The section cited by the Examiner runs from column 3, line 55 to column 4, line 16 and reads:

The component (b) which is used as an essential component according to the present invention is a hydrocarbon resin, and includes for instance a petroleum resin with a molecular weight in a range from 500 to 3,000 obtained by polymerizing an aromatic petroleum fraction and/or a coal fraction with a boiling point from 140° to 240° C. with or without phenols such as phenol, catechol, resorcinol or hydroquinone in the presence of a Friedel Crafts type catalyst; a cumarone-indene resin with a molecular weight in a range from 500 to 3,000 by polymerizing tur-based naphtha in a similar way; a cyclopentadiene resin obtained by polymerizing a five member cyclic compound having a conjugated double bond represented by the following formula (1);



(1)

wherein R is an alkyl group having 1 to 3 carbon atoms, and n is an integer from 0 to 6, and/or a Diels-Alder addition product thereof or by copolymerizing 100 parts by weight of the aforementioned five member cyclic compound and/or the Diels-Alder addition product thereof with 2 to 200 parts by weight of at least one compound selected from monophenol, polyphenol and an alkyl substituent thereof; a terpene resin with a mo-

Note that nothing in the Imai specification cited by the Examiner reads upon or even suggests the long chain alkyl phenol compounds which are now a limiting element of the independent claims. Thus, it follows that the Claims, as now amended are not anticipated by Imai.

These Claims are also not obvious. The C<sub>24</sub> - C<sub>36</sub> polymerized methylene coupled alkyl phenol element of the claims is an important element. Since there is no teaching nor suggestion in Imai for this important element, one of ordinary skill in the art would not have been motivated to modify the formulations of Imai using such an alkyl phenol.

The Examiner also rejects various claims as obvious in view of Song, Wantling, Bates and/or Kerr. These rejections are directed at elements other than the C<sub>24</sub> - C<sub>36</sub> polymerized methylene coupled alkyl phenol element of the amended claims. The Examiner does not cite these references for use of such alkyl phenols. The Applicants have made a good faith review of these references and do not believe they disclose the C<sub>24</sub> - C<sub>36</sub> polymerized methylene coupled alkyl phenol element of the amended claims.

Song and Wantling were subject to an electronic search of a text version of the patents downloaded from PATENT HUNTER<sup>TM</sup> and no use of the term phenol was found.

A similar electronic search of Bates disclosed surfactants that may include nonyl phenol at column 8, lines 33-46. Bates also references these surfactants in Examples 5-9. The Claims of the application would not be obvious, however, because it would be counter intuitive that a surfactant would provide the low water absorption properties afforded by the C<sub>24</sub> - C<sub>36</sub> polymerized methylene coupled alkyl phenol element of the amended claims.

Kerr was not available on-line in a text form. An image file was subject to OCR software (ADOBE® Acrobat Pro) and searched electronically and no use of the term was found. A visual scan of Kerr also did not find use of the term phenol.

Because of this and the fact that claims 3 and 4 which included the subject matter now incorporated into the independent claims were not subject to a specific rejection, it is the Applicants' position that the claims are now in condition for allowance.

#### **DOUBLE PATENTING**

The Applicants acknowledge the double patenting rejection, but elect to wait until the scope of such claims as may be allowable is determined prior to taking action regarding same.

#### **CONCLUSION**

For all the foregoing reasons, Applicants submit that the application is in a condition for allowance.

Respectfully submitted,

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